

Remarks

Applicant believes that this amendment places the subject application in better condition for allowance and in so doing introduces no new issues. Therefore, entry of this Amendment, reconsideration of the application, and allowance of all claims pending herein is respectfully requested.

Claims 1-24 were originally presented in the subject application. By the foregoing amendment, the Examiner's noted informalities in the drawings have been corrected. Claims 1, 2, 5, 6, 14, 15 and 24 have been amended. The Examiner's concerns are addressed separately below in the order raised in the outstanding Office Action.

No new matter has been added.

Objection to the Drawings

Formal drawings will be submitted upon receipt of a Notice of Allowance for the application. The revised informal drawing sheet 18/18, with the required "Prior Art" text, is submitted with this response. Examiner approval of the drawing change is requested.

Objection to the Abstract

The Abstract has been rewritten to respond to the concerns posed by the Examiner.

Claim 6 has been amended to accommodate the concern raised in the Office Action.

Rejections under 35 U.S.C. § 101:

Claim 24 stands rejected under § 101 as directed to non-statutory subject matter. To the extent deemed relevant in light of amended claim 24, Applicant respectfully traverses this claim.

Claim 24 has been amended to recite only statutory subject matter.

Rejections under 35 U.S.C. §103:

Claims 1-24 stand rejected under § 103 as unpatentable over Wraback, U.S. Patent No. 6,476,596 in view of other references. This rejection, to the extent deemed relevant to amended claims presented herewith, is respectfully traversed.

Claims 1-2 stand rejected under § 103 as unpatentable over Wraback in view of the Kono et al. non-patent reference entitled "Coherent Detection of Mid-infrared Radiation up to 60 THz with an LT-GaAs Photoconductive Antenna." Amended claim 1, from which claims 2-6 depend, recites a "light-waveform measuring device ... wherein ... the measurement light is coherent light having a wavelength longer than that of 100 THz." The Office Action acknowledges that "Wraback does not disclose both of gate pulse light and the measurement light being coherent lights, the measurement light is coherent light having a wavelength smaller than those of a near-infrared region. Kono discloses a terahertz spectroscopy comprising coherent lights ('coherent detection,' introduction section)." (Office Action p.5).

However, Kono does not disclose the claimed light "having a wavelength longer than that of 100 THz." Instead, Kono is expressly limited to wavelengths "up to 60 THz," as stated in the title. Kono also specifies that "The detection of radiation up to 60 THz is detected." (Kono Abstract). Kono repeatedly emphasizes that it addressed only wavelengths of up to 60 THz. "As a typical example, we present the detection of up to 60 THz using the shaker modulation technique. This is the highest frequency detected with the PC antenna so far reported." (Kono, p.105, Introduction).

Claims 3-11 stand rejected under § 103 as unpatentable over Wraback, Kono, and Takeshita et al., U.S. Patent No. 6,529,281. Since claims 3-6 depend from claim 1, they include the claim 1 characteristic of measurement light "having a wavelength longer than that of 100 THz," and are not rendered obvious by the cited art.

The Office Action rejects claim 7 on similar grounds to claims 3 and 4. "With respect to claim 7, refer to discussion in claim 1 above for the system and claim 3 above for the pair of electrodes. Takeshita does not disclose a plurality [of] pairs of electrodes. However, it would have been obvious to modify Wraback with a plurality of pairs of electrodes as claimed to measure different types of sample at a same time." (Office Action p.6). In order to make an

obviousness finding, there must be an "apparent reason" to combine the cited references to make the proposed combination. "The *KSR* Court noted that obviousness cannot be proven merely by showing that the elements of a claimed device were known in the prior art; it must be shown that those of ordinary skill in the art would have had some 'apparent reason to combine the known elements in the fashion claimed.'" *In re Whalen*, Appeal 2007-4423 for Application 10/281,142, p. 16 (BPAI 2008) (Precedential Opinion).

There would be no apparent reason for a practitioner to apply the Takeshita device to attempt to create the claimed invention. Takeshita discloses a position sensitive detector to address "spot chipping," in which part of the light projected from the light source deviates from the measured object." (Takeshita col. 1 lines 13-14, 59-61). The mere fact that Takeshita discloses the use of electrodes does not mean there would be an apparent reason to apply Takeshita to the different area of measuring light waveforms. There would also be no apparent reason to make the proposed combination of Takeshita with Wraback et al., since Wraback is meant for the detection of terahertz electric fields.

The Office Action states that with "respect to claims 8, 10, 11, ... it would have been [an] obvious design choice to modify Wraback by directing the gate pulse light as claimed for different intended uses." (Office Action p.6). However, the direction of the gate pulse light is important for the functioning of the device, rather than as an element of design.

Claims 12-23 stand rejected under § 103 as unpatentable over Wraback, Kono, and Duvillaret et al. The Office Action states that Wraback does not disclose the data processing means, but that Duvillaret discloses the claimed data holding unit. (Office Action p.7). However, there would be no apparent reason to combine the Duvillaret data unit with the Wraback device.

Claim 24 stands rejected under § 103 as unpatentable over Duvillaret. However, claim 24 has been amended to accommodate the § 101 issues raised in the Office Action.

Therefore, the claims are not rendered obvious by the cited art.

## CONCLUSION

For at least any one of the foregoing alternate reasons, Applicant submits that the dependent claims are allowable for the same reasons as the independent claims from which they directly or ultimately depend, as well as for their additional limitations. Applicant therefore further submits that all of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot.

This application is now believed to be in condition for allowance, and such action at an early date is respectfully requested. However, if any matters remain unresolved, the Examiner is encouraged to contact the undersigned by telephone.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, Applicant petitions for any required relief including extensions of time and authorizes the Assistant Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 50-0734** referencing Docket No. 1121.001. However, the Assistant Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Respectfully submitted,

/kc/

Kathleen Campbell  
Attorney for Applicants  
Registration No. 56316

Dated: February 1, 2010  
SAMPSON & ASSOCIATES, P.C.  
50 Congress Street  
Suite 519  
Boston, MA 02109  
Telephone: (617) 557-2900  
Facsimile: (617) 557-0077